

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicants : Liu and Liu  
U.S. Serial No. : 10/593,701  
Confirmation No. : 3093  
Filed : September 19, 2006  
Examiner : Hao D. Mai  
Art Unit : 3732  
For : FLEXIBLE DENTAL FLOSS APPLICATOR AND  
INTERDENTAL GUM STIMULATOR

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January 5, 2010

Commissioner for Patents  
P.O. Box 1450  
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**REPLY BRIEF**

An Examiner's Answer for the above-referenced application was mailed December 17, 2009. Appellants may file a Reply Brief to an Examiner's Answer within two months from the date of the Examiner's Answer. Accordingly, this Reply Brief is being timely filed. If any fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 50-1891.

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## **RESPONSE TO EXAMINER'S ANSWER**

Claims 22, 24-27 and 31-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maloney (U.S. Pat. No. 3,533,420) in view of Chodorow et al. (U.S. Pub. No. 2005/0217692). Claims 28-30 and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maloney (U.S. Pat. No. 3,533,420) in view of Chodorow et al. (U.S. Pub. No. 2005/0217692), and further in view of Gordon (U.S. Pat. No. 5,184,719). Hence, Appellants submit that the rejections are based essentially on the combination of Maloney and Chodorow.

The examiner contends that "the claim language "... so that the interdental material can be brought laterally to either side of the longitudinal axis of the handling means to have an about 90 degrees angle between the interdental material and the longitudinal axis of the handling means/handle" (claim 22 lines 9-12; claim 31 lines 9-12) is **functional** language and does not convey positive structural limitations" (Examiner's Answer, page 6). Appellants respectfully traverse.

Appellants submit that independent claims 22 and 31 recite:

*... the interdental material is oriented longitudinally as related to the longitudinal axis of the handling means/handle; and*

*... the flexible means/elbow is pliable so that the interdental material can be brought laterally to either side of the longitudinal axis of the handling means/handle to have an about 90 degrees angle between the interdental material and the longitudinal axis of the handling means/handle.*

Accordingly, Appellants submit that the claim language when read together is not merely functional. Instead, the above recited claim language imposes certain structural limitation on the claimed apparatus, namely the interdental material is oriented longitudinally as related to the longitudinal axis of the handling means and the interdental material can be brought laterally to either side of the longitudinal axis of the handling means to have an about 90 degrees angle.

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The examiner also contends that “Maloney in view of Chodorow disclose all the structural limitations as claimed; furthermore, Maloney's hinge 64/66 (Figs. 5-6) and Chodorow's living hinge 22 (Fig. 2) each is *capable* of allowing the interdental material be brought laterally to either side of the longitudinal axis of the handling means to an angle of about 90 degrees as claimed” (Examiner's Answer, page 6). Appellants respectfully traverse.

Regarding Maloney, the examiner has not provided any teaching from Maloney that supports the examiner's assertion that hinge 64/66 is capable of allowing the interdental material be brought laterally to either side of the longitudinal axis of the handling means to an angle of about 90 degrees as claimed herein. Furthermore, the examiner has not provided any teaching from Maloney to refute Appellants' argument that one of ordinary skill in the art would reasonably conclude that such hinge would only allow less than 90-degree lateral movement in view of the teaching that “[h]inge pin 66 is a head screw whose threads are engaged in corresponding threads in the eyes of the hinge so that upon advancement of the hinge pin, the hinge may be secured ...” (Maloney, column 2, lines 71-74).

In response to Appellants' argument that Chodorow's hinge only permits movement to one, not both, side of the handling means because of the projecting latch that locks the device's head in a bent orientation, the examiner “maintains that one skill in the art would determine that such living hinge 22 as disclosed by Chodorow is *capable* of bending to either side regardless of the latch on the handle. ... The head may not be capable of locking if bent on the side without the latch, but it certainly is capable of bending to either side via living hinge 22” (Examiner's Answer, page 7). Appellants respectfully traverse.

Appellants submit that Chodorow does not teach a hinge that allows the interdental material be brought laterally to either side of the longitudinal axis of the handling means as claimed herein. Chodorow teaches an apparatus that requires bending the head to one, not both, side of the handling means:

The present invention provides a new one-piece injection-molded dental flosser that stretches the floss when the user prepares the device for use. Prior to such stretching, the new device is generally flat and unusable, with a handle part and a flosser part

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including floss that is slack, namely, not taut or perfectly linear. Stretching the floss is achieved in the new device by bending the flosser head part relative to the handle, whereby a projection from the handle functions first as a cam to drive the arms of the flosser to be slightly more separated, and second as a latch to lock the flosser head in the bent orientation, which thus maintains the arms more separated and the floss taut. (Chodorow, paragraph [0010])

Thus, if the head is bent to the other side without the latch as asserted by the examiner, then Chodorow's apparatus would become non-functional because (1) the head is not fixed at a desired position, and (2) the floss would not be kept taut. In other words, Chodorow teaches an apparatus that is useful and functional only when the head is bent and locked to one side with a latch and the floss is kept taut. Whether the head is capable of being bent to both side of the handle is irrelevant because Chodorow teaches an apparatus that requires the head be bent and locked to one side of the handle. Bending the head to another side would render Chodorow's apparatus non-operational.

Moreover, Chodorow teaches arranging the interdental material transversely as related to the longitudinal axis of the handle (*see e.g.* Figures 1 and 5). Chodorow does not teach the interdental material is oriented longitudinally as related to the longitudinal axis of the handling means and the interdental material can be brought laterally to either side of the longitudinal axis of the handling means to have an about 90 degrees angle as claimed herein.

In summary, Appellants submit that the combination of Maloney and Chodorow does not render claims 22 and 31 obvious because the combined teaching of Maloney and Chodorow does not teach each and every aspect of the present invention. Modifying Maloney by substituting Maloney's spring hinge 64/66 with Chodorow's hinge that requires bending to one side only would not arrive at the apparatus of the present invention that allows bending the head portion to both side of the handle as claimed herein.

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In view of the above remarks, Appellants respectfully request that the rejection of claims 22, 24-41 under 35 U.S.C. 103(a) be withdrawn.

Respectfully submitted,

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